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AUTHOR Sgandurra, Carolyn A.; Fish, Marian C.
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ABSTRACT

This paper investigates the mediational effects of family functioning on the socioemotional adjustment of non-disabled siblings of children with developmental disabilities. Families who participated were placed into two groups, those raising a child with developmental disabilities and those raising a child with typical development, with 28 families per group. Parents and siblings from both groups completed several measurement scales. The results indicated that families of children with and without developmental disabilities showed similar family functioning and siblings showed similar anxieties and scored the same on self concept measures. Family problem solving communication significantly predicted siblings' adjustment, and the presence of a child with a disability in the family significantly predicted lower self concept for siblings of children with developmental disabilities. Findings provide support for programs that facilitate effective family problem solving communication. (Contains 5 tables and 10 references.) (JDM)

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Carolyn A. Sgandurra and Marian C. Fish

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The Social-Emotional Development of Siblings of Children with Disabilities

Carolyn A. Sgandurra, Ph.D.
Graduate Center, The City University of New York
Marian C. Fish, Ph.D.
Queens College, The City University of New York

Introduction

Siblings of children with disabilities are often coping with many family challenges, including changes in roles and responsibilities, and differences in their sibling relationships (Seligman & Darling, 1997). There is concern about the effects these changes have on siblings' social-emotional adjustment (Hannah & Midlarsky, 1985). The literature on sibling adjustment suggests that non-disabled siblings in families with a child with a disability may be at-risk for psychological maladjustments (e.g., poor self-esteem, anxiety, cognitive problems) or may experience psychological benefits (e.g., greater empathy and altruistic behavior) (Hannah & Midlarsky, 1985; Seligman & Darling, 1997).

Traditional research on sibling adjustment examined mediating effects of static characteristics on siblings' development (e.g., children's age, gender, birth order, and severity of disability condition) (Breslau, 1982; Vadasy, Fewell, Meyer, & Schell, 1994). More recently, sibling adjustment research has focused on mediating effects of process variables, such as family roles, relationships, attitudes, and expectations, on the non-disabled siblings' psychosocial functioning because these variables are more amenable to family interventions (e.g., sibling support programs and family training) (Coleby, 1995; Hannah & Midlarsky, 1985).

Family systems processes has been viewed as one mediating variable of siblings' adjustment. In the family systems literature, the Circumplex Model of Marital and Family Systems (Olson, Russell, & Sprenkle, 1989) defines family functioning as the family's adaptability, cohesiveness, and communication. According to this model, healthy family functioning is defined by families falling in a "balanced" range of cohesion and adaptability and possessing good communication skills. To this end, a balanced level of support and emotional bonding (i.e., neither too enmeshed nor too separated) and a balanced degree of flexibility in the family structure, roles, rules, and routines (i.e., neither too rigid or chaotic) are familial qualities which manifest better family functioning.

Second, family functioning has also been described as the ability to cope functionally and adaptively with family stressors (e.g., making necessary adjustments and learning new skills necessary to raise a child with a developmental disability). The Resiliency Model of Family Adaptability and Adjustment (McCubbin & McCubbin, 1996) describes family coping capability/resiliency in terms of managing problems both internal and external to the family. Families cope by tapping effective problem-solving skills and accessing social supports. Consequently, family processes that are related to coping and resiliency may also mediate sibling adjustment.

There is limited research that assesses the relationship between cohesion, adaptability, problem-solving communication, and family coping/resiliency skills and the adjustment of siblings. Preliminary research suggests that family systems processes do relate to sibling adjustment. For example, family adaptability and cohesion has been related to behavior problems in adolescent siblings of children with varying disabilities (Winick, 1996), and family reactivity to stress was related to self-concept, behavior and social competence in non-disabled, elementary school-aged siblings (Dyson, Edgar, & Crnic, 1993). Also, family coping has been

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shown to relate to emotional reactivity to social conflicts among non-disabled, elementary school-age siblings (Nixon & Cummings, 1999).

In summary, recent findings suggest that systemic processes mediate the adjustment of siblings of children with disabilities (Dyson, Edgar, & Crnic, 1993; Nixon & Cummings, 1999; Winick, 1996). However, this research is limited. There is a need for more research which describes the relationship between family psychological variables and sibling adjustment so that professional support can address essential family processes which mediate adjustment in children with and without disabilities.

Therefore, this study intends to expand recent findings by assessing the mediating effects of family functioning on sibling adjustment in families with a child with a developmental disability. This study addresses the following questions:

1. Do families of children with developmental disabilities have less favorable levels of adaptability, cohesiveness, and problem-solving communication and lower coping skills compared to families of children without developmental disabilities?
2. Are there different correlations between family coping skills and family adaptability, cohesion, problem-solving communication for D families as compared to ND families?
3. Do siblings of children with developmental disabilities have lower self-reported self-concept and higher self-reported anxiety compared to siblings of non-disabled children?
4. Does family adaptability, cohesion, problem-solving communication, and coping more strongly predict the self-concept and anxiety of siblings of children with developmental disabilities compared to siblings of children without disabilities?

Method

Participants. Two groups of families (28 families per group) participated in this study: families with a child with developmental disabilities (Disability group) and families with children who are non-disabled (Non-disability group). In each family, a mother, father, and one non-disabled child completed questionnaires which they received through a participant packet mailed to their homes. Among children who participated, one group included brothers or sisters of children with developmental disabilities, and the second group included children with brothers or sisters who demonstrated typical development. Ages of participating siblings ranged from 8 to 14 years. All participating families were two-parent (living together).

Instruments. mothers and fathers completed several measures on family background, family cohesion, adaptability, problem-solving communication, and coping/resiliency:

- The Family Adaptability and Cohesion Environment Scale (FACES II). This Likert scale asks family members to respond to 30 statements about general family actions and attitudes in the day to day routines of families.
- The Family Crisis Oriented Personal Scales (F-COPES). This 30 item Likert scale assesses family problem solving and strategies used during difficult family situations.
- Family Problem-Solving Communication (FPSC). This 10 item, four-point Likert scale assesses family communication style during problem solving situations.
- Family Background Questionnaire: One parent completed a family profile questionnaire that measured family members' ages, family size, SES, the severity of the disability and the extent of the sibling's household and childcare responsibilities.

In addition, non-disabled siblings of children with developmental disabilities and siblings of non-disabled children, ages 8 – 14, completed two self-report measures of their social-emotional adjustment:

- The Piers-Harris Children's Self-Concept Scale (CSCS) This scales contained 80 statements about a child's perception of his/her behavior, intellectual and school status, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction.
- Revised Children's Manifest Anxiety Scale (RCMAS). This 37 item scale asked children to either agree or disagree with statements about what they think and feel (e.g., "I never get angry", "I am nervous") on three areas of anxiety: Physiological Anxiety, Worry/Oversensitivity, Social Concerns/Concentration, and a Lie index (i.e., the extent of one's social desirability.)

Procedure. After meeting the research criteria for Disability or Non-Disability groups, families were mailed a participant packet to their home. Each parent separately completed a set of family functioning measures, and participating siblings completed the RCMAS and the CSCS. Each family member was instructed to seal their questionnaires in separate envelopes and asked not to discuss their answers with others. Families returned these mailers once all questionnaires were completed and consent forms were read and signed. Forty-four Disability families were mailed a participant packet from which 30 families eventually returned the completed questionnaires (68% response rate). In the Non-Disability group, a total of 67 families were mailed a participant packet, from which 34 families eventually returned the completed questionnaires (50% response rate).

Results

- Do families of children with developmental disabilities have less favorable levels of adaptability, cohesiveness, and problem-solving communication and lower coping skills compared to families of children without developmental disabilities?

Three separate ANOVAs comparing cohesiveness, adaptability, and problem solving communication as dependent variables, and family status as independent variable, were not statistically significant (see Table 1). Based on results, families of children with developmental disabilities have similar cohesiveness, adaptability, and problem-solving communication as compared to families raising children with typical development. This suggests that D & ND families show similar ranges of intra-familial bonding, exhibit similar flexibility in family structure, including rules, routines, and boundaries, and demonstrate similar problem-solving communication styles that range from too incendiary to highly affirming, suggesting greater amounts of supportive and nurturing communication messages.

Further, an ANOVA examining family coping skills as dependent variable and family status as independent variable was statistically significant (see Table 1). Specifically, D families reported higher usage of two areas of coping: "Acquiring Social Support" and "Mobilizing Family Support", when compared with families of children with typical development. 'Acquiring social support' refers to the seeking out of emotional support (e.g., sharing problems with family) and accepting assistance with daily living responsibilities (e.g. sharing dinners, accepting favors from neighbors). 'Mobilizing family support' refers to the family's ability to gain insight and informational support from professionals or friends and families in similar situations. Based on these findings, families of children with developmental disabilities must access family and community resources more than families without children with disabilities. Because they more regularly face overwhelming family problems (e.g., childcare, financial stress, emotional support), they must do so in order to function similarly to families not coping with disabilities.

Table 1. Differences in Family Systems Functioning by Family Status

	D Families	ND Families	*F* Score
Cohesion	65.0 (7.0)	64.7 (7.9)	F(1,54)=.02, p=.88
Adaptability	48.0 (5.5)	46.9 (5.1)	F(1,54)=.64, p=.43
Problem-Solving Communication	7.7 (5.2)	7.3 (4.3)	F(1,54)=.12, p=.73
Family Coping Skills	106.5 (9.2)	100.0 (11.7)1	F(1,54) = 5.31, p=.03.

- **Are there different correlations between family coping skills and family adaptability, cohesion, problem-solving communication for D families as compared to ND families?**

Pearson-product correlations were run between family cohesion, adaptability, problem-solving communication and family coping skills in both groups of families (see Table 2). Based on the results, there appears to be different patterns of significant relationships between family system variables and family coping skills. In Disability families, family cohesion and communication correlates with coping skills; in Non-Disability families, family adaptability correlates with coping skills. In Disability families, family coping skills are unique of family adaptability such that families cope through external support. In Non-Disability, it appears that family coping is associated with restructuring family rules and routines, or internal support.

Table 2: Correlations Between Family Cohesion, Adaptability, Problem-Solving Communication with Family Coping Skills for D and ND Families.

	Family Coping Skills		
Variable	D Families	ND Families	Z-Score
Cohesion	.38**	.15	.85
Adaptability	.26	.42*	-.65
Problem-Solving Communication	.43*	.24	.77

* Significant at 0.05 level; ** Significant at 0.01 level.

- **Do siblings of children with developmental disabilities have lower self-reported self-concept and higher self-reported anxiety compared to siblings of non-disabled children?**

Two ANOVAs examining self-concept and anxiety as dependent variables and siblings' family status as the independent variable were not statistically significant (see Table 3) . Based on these findings, siblings of children with developmental disabilities in their middle childhood have similar self-concept and anxiety compared to siblings of children with typical development in

their middle childhood. Thus, since these families are functioning similarly to Non-Disability families, the social-emotional adjustment of siblings of disabled children is not adversely affected by the family's demands of raising a child with special needs.

Table 3. Mean Ratings and F-Scores of Siblings' Self-Reported Anxiety and Self-Concept

	Self-Concept	Anxiety
Disability	57.9 (9.1)	43.9 (9.8)
Non-Disability	62.1 (10.0)	42.0 (12.6)
F-Score	F (1, 54) =2.6, p=.11	F (1,54) = .4, p= .53

- **Does family adaptability, cohesion, problem-solving communication, and coping more strongly predict the self-concept and anxiety of siblings of children with developmental disabilities compared to siblings of children without disabilities?**

Regression analyses were performed using family cohesiveness, adaptability, problem-solving communication, and coping skills as predictors of siblings' self-concept and anxiety, as well as the interaction between these variables with family status (i.e., disability versus non-disability family). Findings showed that family problem-solving communication and family status significantly predicted siblings' self-concept (see Table 4), such that when family problem-solving communication skills are held constant, self-concept scores for siblings of children with developmental disabilities will be 4.45 points lower on the CSCS scale.

Table 4. Summary of Regression Analysis for Predicting Siblings' Self-Concept

Predictor Variable	b-weight	t-value	p-value
(constant)	57.0	22.4	.00
Family Problem Solving Communication	.70	2.7	.01
Group Status	-4.45	-1.83	.07

Mult. R = .40, F (2,53) = 5.1, p = .01.

In addition, family problem- solving communication significantly predicted siblings' anxiety (see Table 5). As family problem-solving communication skills increase (i.e., are more affirming), siblings' anxiety scores on the RCMAS scale decrease, and this finding is similar between groups. Thus, regardless of whether there is a child with a disability in the family, affirming problem solving communication is associated with decreased anxiety and increased self-concept in children.

Table 5. Summary of Regression Analysis for Predicting Siblings' Anxiety

Predictor Variable	b-weight	t-value	p-value

(constant)	48.1	17.6	.00
Family Problem-Solving Communication	-.69	-2.24	.03

Mult. R = .29, F (1,54) = 5.0, p = .03

Conclusions and Summary

Between Disability and Non-Disability families of similar problem-solving communication, siblings of children with disabilities possessed lower self-concepts. Nixon and Cummings (1999) found that siblings of children with disabilities more frequently assume personal responsibilities for family problems and show more involved coping during family conflicts. This factor may cause siblings to face more negative family conflicts. Therefore, siblings of children with disabilities may feel socially ineffective and incompetent if they are continually involved in family conflicts that never resolve due to the perpetual effects of the disability. These feelings may relate to lower self-concepts.

As families show more affirming problem-solving communication, siblings possess less anxiety. Perhaps effective communication during family conflicts allows family members to solve problems together through managing conflict, using compromise in everyday decisions and for future needs. Healthy parent-child relationships have been shown to correlate with less depression and greater self-esteem among siblings of children with disabilities. In addition, parents model communication skills through which children learn appropriate interpersonal relations and conflict resolution skills.

These findings offer several applications to the practice of school psychology. First, the findings from this study support the notion that school professionals should be sensitive to the needs of non-disabled siblings in families of children with disabilities. Second, these findings supports practices that promote the development of good self-esteem in siblings, such as through siblings support groups. Third, if family problem-solving communication skills and family coping skills are particularly low, school psychologists may refer families of children with disabilities for family counseling.

There are several methodological limitations inherent in this study that should be addressed. First, voluntary participation may have excluded less functional families from participating, and this factor may have varied across groups. Second, different motivating sources between groups, internal versus external, may have affected the sample selection across groups. Third, this study included only one source of information for siblings' adjustment. Future research may include a parental report of children's functioning.

From this study are many possible directions for future research in the adjustment of siblings of children with disabilities. There may be further assessment of family communication patterns during social conflicts as related to siblings' adjustment. Also, there can be comparison of communication and coping skills between two-parent versus single-parent families of children with developmental disabilities. In addition, future research may assess family childcare stress between families of children with and without developmental disabilities and how these impact on siblings' adjustment.

In summary, families with children with developmental disabilities are similar in family cohesiveness, adaptability, and problem-solving communication compared to families of children with typical development. Although Disability families practice greater coping skills, this does not significantly predict non-disabled siblings' adjustment. Instead, family problem-solving

communication predicts self-concept and anxiety for siblings in both groups of families. Furthermore, at the same level of effective problem-solving communication, siblings of children with developmental disabilities will show lower self-concepts, perhaps due to the fact that siblings of children with special needs are frustrated by inevitable family challenges and their involement in family conflicts. Family interventions that support the development of affirming communication skills as well as help families to seek external support are beneficial to siblings' social-emotional development.

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For additional information, please contact:
Carolyn Sgandurra, Ph.D
(718) 515-3000
Csgandur@astorservices.org

Marian C. Fish, Ph.D
(718) 997-5230
Mfish@gc.cuny.edu